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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/537,810

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EXAMINER

BALDWIN, GORDON

ART UNIT

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1794

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/537,810	Applicant(s) ICHIKAWA ET AL.	
	Examiner GORDON R. BALDWIN	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-37 is/are pending in the application.
- 4a) Of the above claim(s) 28-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-27 and 37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 19, 20, 22, 24 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Yu (Jap. Pub. No. 04-301115).

Consider claims 19, 20, 22, 24 and 26, Yu teaches a plugged honeycomb structure with through holes (16) extending from one face to the other in an axial direction with an outer peripheral wall (17) that surround the honeycomb structure. (Constitution) Yu also teaches that the plugging portion is arranged in the vicinity of the outer peripheral wall, in addition to the inner portions of the honeycomb structure outer with the tips of the 1st seal plugs (18) extending or protruding from the end face and the tip is substantially flat and the plug, as shown in the abstract, is in a polygonal or quadrangular shape. (Constitution and the figure in the abstract) The term “vicinity” is not considered to limit how close the plugs have to be to the outer peripheral wall, because even those plugs extending from the center of the structure are considered to be in the vicinity of the outer wall. Also, Yu discloses a second embodiment (as shown in figure 2(b)) where the second plugs (20) replace the plugs (19) of the original embodiment (figure 1), and these second plugs (20) protrude away from the (out-flow)

end face (as seen by the arrow in figure 2(b)), and the plugs (20) are substantially flat.
(Figure 2b and Paragraph 31)

Additionally, the figure in the abstract shows that maximum height from the end face to the tip of the exposed plug is equal for all the exposed plugs (18). (See abstract figure)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Yu (Jap. Pub. No. 04-301115).

Consider claims 21, Yu teaches the claimed invention in claim 19, but does not specifically teach the plugging portion are to be in a circular shape, but this limitation is considered to be an obvious change in shape which is a matter of choice which a

person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of a circular plugging portion is not obvious.

Additionally, the circular shape claimed by the applicant would have been obvious matter of an engineering choice to a person skilled in the art at the time of invention, since such a modification would have involved a mere change in the size or shape of the component. A change in size (or shape) is generally recognized as being within the level of ordinary skill in the art. In re Gardner v. TEC systems, Inc. 725 F.2d 1338, 220 USPQ 888 (Fed. Cir. 1984), cert denied, 469 U.S. 830, 225 USPQ 232 (1984)

Claims 19, 20, 22-26, 37 rejected under 35 U.S.C. 103(a) as being unpatentable over Cutler (WO Pub. # 00/48807) in view of Yu (Jap. Pub. No. 04-301115).

Consider claims 19-20 and 22-26, Cutler teaches a plugged honeycomb structure with partition walls in a axial direction with a plugging material that can be placed in a variety of configuration throughout the surface of the surface of the partition walls (Fig. 2 and 2a) with the tip of the plugging material being in a flat or curved configuration (as shown in fig. 1 and 1a). Cutler is also considered to teach that the sectional shape of the protrusion is polygonal (or quadrangular) in figures 2 and 2a as well as figure 5., with the linear or curved (or circular shape in relation to a sectional shape crossing the axial direction at right angles) shape being taught by figure 1. Figures 2 and 2a are considered to teach that the plugging material can be placed in the

center as well as the periphery of the honeycomb structure's end face in addition to the showing that the tips of the protruding portions are substantially equal in height.

However, Culter does not specifically teach that the honeycomb structure has an outer peripheral wall surrounding the partition walls. Yu teaches the use of an outer frame 17 in a honeycomb structure with first seal plugs 18 and through holes and partition walls. (Abstract and Fig. 1) Additionally, the term "vicinity" is not considered to limit how close the plugs have to be to the outer peripheral wall, because even those plugs extending from the center of the structure are considered to be in the vicinity of the outer wall. Also, Yu discloses a second embodiment (as shown in figure 2(b)) where the second plugs (20) replace the plugs (19) of the original embodiment (figure 1), and these second plugs (20) protrude away from the (out-flow) end face (as seen by the arrow in figure 2(b)), and the plugs (20) are substantially flat. (Figure 2b and Paragraph 31)

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the plugged honeycomb structure of Cutler with the plugged honeycomb structure utilizing an outer wall of Yu to make a honeycomb structure with greater strength and structural reinforcements supplied by the addition of an outer wall as taught by Yu.

Consider claim 37, Cutler teaches a plugged honeycomb structure with partition walls in an axial direction with a plugging material that can be placed in a variety of configurations throughout the surface of the surface of the partition walls (Fig. 2 and 2a) Cutler may not specifically disclose that the plugging portion of the central portion does

not extend, however Cutler is considered to show that the protruding plugging portion can be arranged in a variety of intervals. This is considered to include orientation where the central end face plugging portions do not protrude, while the exterior plugging portions do extend. It would have been obvious to a person of ordinary skill in the art at the time of the invention to arrange the protruding plugging portion in such an orientation because it is a rearrangement of the plugging portion of the prior art. It has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

Claims 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cutler (WO Pub. # 00/48807) and Yu (Jap. Pub. No. 04-301115) and in view of Montierth (U.S. Pat. No. 4,411,856) .

Consider claim 27, the combination of Cutler and Yu disclose the claimed invention (as explained above) except for the porosity of the protruding plugging portion being smaller than the rest of the honeycomb structure. Montierth discloses that the plugs (32) may be formed with open porosity equal to or less than the porosity of thin walled (30) honeycomb structure. (Col. 10 lines 29-50) Montierth discloses the use of a variety of ceramic cements to be used as a sealing (plugging) materials for honeycomb structures, which includes cordierite and other non-foaming ceramic cements. (Col. 10, lines 5-28) It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the honeycomb structures with plugging material extending beyond the end faces of the honeycomb structures, as taught in Cutler and Yu, with plugging material with a lower porosity than the honeycomb structure, as taught in

Montierth because it is an obvious engineering choice. One of ordinary skill would have used the lower porosity plugging material because Montierth shows that it is known in the art to use such a material (as shown above) in a honeycomb structure. The court has held that it is within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious engineering choice. In re Leshin, 125 USPQ 416.

Response to Arguments

Applicant's arguments, filed 1/17/2008, with respect to the rejections involving Shigeto have been fully considered and are persuasive. The 35 U.S.C. 103 and 103 rejections of claims 19-23 has been withdrawn.

Applicant's arguments with respect to claim 27 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed 1/17/2008 in regard to the 102 and 103 rejections of claims 19-26 in view of Yu and Cutler in view of Yu have been fully considered but they are not persuasive, since Yu discloses that protruding plugging material can protrude from both end faces of the honeycomb structure as detailed in the above rejections. Therefore, the rejections utilizing Yu stand.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GORDON R. BALDWIN whose telephone number is (571)272-5166. The examiner can normally be reached on M-F 7:45-5:15.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on 571-272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GRB

/Timothy M. Speer/

Primary Examiner, Art Unit 1794